

Technical Case Study

Urban Roadside Naturalization Pilot Project

Abstract

Earthmaster was retained by the City of Calgary to conduct an urban roadside naturalization pilot project along a busy roadway in Calgary, Alberta. The goal of the project was to demonstrate proof of concept for using an alternative landscaping treatment to replace the manicured turfgrass with mixes of wildflowers and native grasses. Earthmaster worked with the project group to select and source seed for the mix of annual and perennial wildflowers and native grasses. The site was prepared and the seed installed with minimal soil disturbance. Several species of wildflowers successfully germinated and grew in the summer of 2021, the first year of a three year project.

Project Background

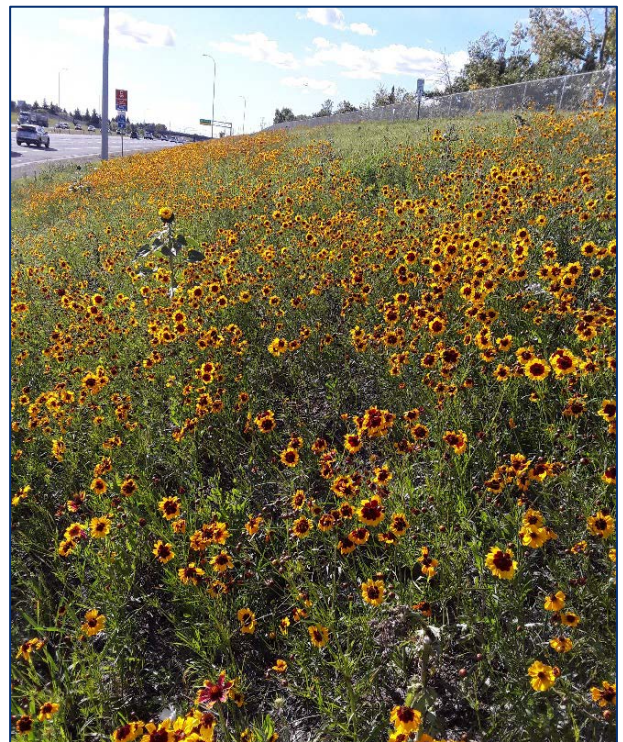
The project site was located in NE Calgary along a busy urban roadway serving as a major east/west corridor. The site, which was covered in thick thatch and emerging manicured turfgrass (Kentucky bluegrass), required dethatching and turfgrass eradication to make it suitable for seed installation. The soil at the project site was deficient in nitrogen and phosphorous, some areas showed elevated salinity, and the site was neither fertilized nor irrigated.

Naturalization Objectives

The project objective was to demonstrate proof of concept for naturalization of roadside vegetation and increasing plant diversity by replacing manicured turfgrass with mixes of wildflowers and native grasses. Two seed mixes were chosen based on the site location: Mix A installed away from the roadway and Mix B installed immediately adjacent to the roadway where elevated salinity may be encountered. Each seed mix consisted of a variety of native grasses as well as annual and perennial wildflowers. The seed mixes were sown into the eradicated turfgrass stubble to minimize soil disturbance and protect seedlings from harsh conditions. Weed control was conducted as needed by spot spraying of herbicide.

Results

Following seeding in Year 1, several species of annual wildflowers successfully germinated in the turfgrass stubble to facilitate the quick establishment of flowering species. The annual species provided a cover crop until the slower growing perennial species were



established on the site and produced additional flowers. Many of the annual flowering species successfully produced seed to facilitate sustainability of the annual species. Year 2 saw the natural progression of the perennial flowering species replacing the annual species. Numerous native grass species were also successfully established on the site.

Conclusions

Proper site preparation and species selection were critical to the successful establishment of the annual and perennial wildflowers and native grasses on the project site. Replacing manicured turfgrass with native grasses and flowers provides an aesthetically pleasing and low maintenance option for urban roadsides. In addition, vegetation diversification is critical to supporting pollinator populations and climate resiliency in urban settings. Learnings from this project can be used to establish naturalized areas as part of reclamation strategies in urban settings.

